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10/722,188	11/25/2003	John Jeffrey Waldman	772490100035	7924

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EXAMINER
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SALDANO, LISA M

ART UNIT	PAPER NUMBER
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3673

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/722,188

Applicant(s)

WALDMAN ET AL. 

Examiner

Lisa M. Saldano

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 37 is objected to because of the following informalities:

Regarding claim 37, line 1, the applicant appears to have incorrectly use the word “if” instead of “is” in the following recitation “...the container if formed...” Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 20-25, 30 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Northup (2,896,904).

Regarding claims 1, 2, 22, 23 and 30, Northup discloses a gate valve comprising a container formed by a standpipe 32 and vault 20 (see Fig.2). The container has an inlet 25, an outlet 28 (in the same plane) and a closed bottom surface. Northup also discloses a float 105 and a valve 35 in the container wherein the valve opens in relation to a pre-selected height attained

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by the float. The valve, during its opening phase, is oriented at an angle that ranges from and angle greater than zero degrees to about 60 degrees relative to the horizontal (see Fig.8). The valve is spaced from the closed bottom.

Regarding claim 15, the topmost portion of the container represented by open yoke 90.

Regarding claims 20 and 21, the container and valve are configured to separate solids from liquids in the container because the solids will naturally sink to the bottom of the container 2 upon entering via the inlet 100. This is inherent and explained by the common law of physics regarding gravitational forces. Furthermore, the container and valve are configured to separate solids and liquids from a base liquid with denser liquids and solids sinking to the bottom and less dense liquids floating to the top. Again, this is inherent and explained by the common law of physics regarding gravitational forces.

Regarding claims 24 and 25, Northup discloses a linkage 96 and a linking mechanism 106,107 for fixing the length of the linkage between the float and valve. The float height may be raised through the linking mechanism.

Regarding claim 31, bail 99 functions as a winch coupled to the valve for opening and closing the valve.

4. Claim 35 is rejected under 35 U.S.C. 102(b) as being anticipated by Carson (2,292,509).

Regarding claim 35, Carson discloses a valve for liquid containers comprising a container 6 having an outlet pipe 16, an inlet pipe 1 and a closed bottom surface (see Fig.5). Carson also discloses a hollow ball or float 30 that rises and falls in response to the level of water within the container. Carson further discloses a disk valve 18 inside the container wherein the float opens

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and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve. The invention comprises a valve seat 17 and flapper valve 18 (see Fig.7). The valve seat 17 is positioned at an angle relative to the horizontal that ranges between zero and about 60 degrees (see Fig.7).

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northup (2,896,904).

Northup discloses a gate valve described above. Regarding claim 15, the topmost portion of the container represented by open yoke 90 functions as an inlet. The yoke contains radial support legs that function as a grate structure. Northup discloses that the standpipe 32 is made from concrete (see column 2, lines 70-72). He also illustrates that the vault 20 is made from concrete (see Fig.2).

Regarding claims 15 and 16, although Northup fails to explicitly disclose that the opening at the top of the invention may be used as “the inlet” of the invention, it would have been obvious to one of ordinary skill in the art that the topmost portion could be used to collect water for irrigations purposes.

Regarding claims 17 and 18, although Northup fails to explicitly disclose that the container may be molded as one piece and that the inlet and outlet may be concrete, it would have been obvious to an artisan to form the container, inlet and outlet out of concrete and as one piece because concrete is a common material used for piping because of its durability, as illustrated in Northup’s selection of concrete material for the standpipe. Furthermore, an artisan would form the container from one piece to reduce manufacturing time and to make sure that the container, inlet and outlets are compatible and fit prior to being transported to the final site housing the public works project.

7. Claim 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (5,348,041).

Clark discloses a separator valve for control of liquid comprising a container 2 having an inlet 100, an outlet 5 and a closed bottom surface 101 (see Fig.1). Clark further discloses a primary float 1 that rises and falls in response to liquid level in the container. Clark further discloses a valve disk 13 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

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Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids from liquids in the container because the solids will naturally sink to the bottom of the container 2 upon entering via the inlet 100. This is inherent and explained by the common law of physics regarding gravitational forces.

Clark discloses the separator valve as described above wherein the container and valve are configured to separate solids and liquids from a base liquid with denser liquids and solids sinking to the bottom and less dense liquids floating to the top. Again, this is inherent and explained by the common law of physics regarding gravitational forces. Furthermore, Clark states that the invention is used to control unwanted discharge of liquids less dense than water that may be present in wastewater flows (see abstract). Clark specifically states “liquids less dense than water,” which includes first, second, third and any other liquids that are less dense than water.

Although Clark fails to explicitly disclose a method for controlling liquid, it would have been obvious to one of ordinary skill in the art at the time of the invention to develop the method steps claimed by the applicant of the present invention, from the Clark disclosure, because Clark’s disclosure provides the basic method steps required to use the disclosed invention.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Northup as applied to claim 1 above, and further in view of Clark (5,348,041).

Northup discloses the invention described above.

However, Northup fails to disclose that the inlet dimension is smaller than the outlet dimension.

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Clark discloses a separator valve for control of liquid comprising a container 2 having an inlet 100, an outlet 5 and a closed bottom surface 101 (see Fig.1). Clark further discloses a primary float 1 that rises and falls in response to liquid level in the container. Clark further discloses a valve disk 13 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve.

Regarding claim 3, Clark discloses the separator valve as described above wherein an inlet dimension is smaller than an outlet dimension (see Fig.1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Northup to comprise a smaller inlet dimension in the same plane as the outlet dimension, as taught by Clark, because Northup's invention comprises an open top. The open top functions as a means to collect liquid also. Therefore, the combined inlets at the plane of the outlet and the top would provide a more balanced flow for an outlet sized larger than the inlet at in the plane of the outlet without overwhelming it.

9. Claims 4, 9-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northup as applied to claim 1 above, and further in view of Mirto, Jr. (3,974,654).

Northup discloses the invention described above.

However, Northup fails to disclose use of a flapper valve.

Mirto, Jr. discloses a self-regulating tide gate with a flapper valve 20 (see Figs.1-4).

Mirto, Jr. discloses hinges 22. A component of movement of the flapper valve comprises a vertical direction. The liquid flows generally in the horizontal direction.



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It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the valve gate of Northup to comprise a flapper valve, as taught by Mitro, because both inventions are directed to gate valves and essentially provide the same function. The valves of both Northup and Mirto are functional equivalents and it would merely be a matter of overall design choice as to whether one of ordinary skill in the art used one or the other.

10. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Northup and Mirto, Jr., as applied to claim 4 above, in further view of Schafer et al (4,621,945).

Northup and Mirto, Jr. disclose the inventions described above. Mirto, Jr.'s valve is a rigid plate.

However, Northup and Mirto, Jr fail to disclose a rigid plate adjoins a flexible seal.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2).

Regarding claim 5, Schafer discloses the use of a rigid plate 30 adjoined to an O-ring 33 and a seal ring 28 to prevent water from passing through the valve. As defined by *Merriam-Webster Collegiate-Dictionary, 10<sup>th</sup> Edition*, an O-ring is a ring, as of synthetic rubber, which is flexible, used as a gasket, which is also flexible.

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It would have been obvious to one of ordinary skill on the art to modify either gate valve of Northup or Mirto, Jr.s with a flexible seal, as taught by Schafer, because such seals prevent fluid from flowing at those time when the valve is intentionally closed making for a more efficient system.

11. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northup, as applied to claim 1 above, in further view of Porter (5,456,235).

Northup discloses the invention described above. Northup also discloses a float 105 and a valve 35 in the container wherein the valve opens in relation to a pre-selected height attained by the float.

However, Northup fails to disclose that the float comprises closed-cell foam in a plastic shell.

Porter discloses a system for pumping fuel liquid comprising a float valve 57 formed out of a closed cell plastic foam material.

It would have been obvious to one of ordinary skill in the art at the time of the invention to form the float for the valve of Northup from closed cell plastic foam material, as taught by Porter, because such material is commonly used as the float because of its buoyant properties. Furthermore, Porter specifically uses the material as a portion of a valve for fluid flow regulation.

12. Claims 14 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northup, as applied to claim 1 above, in further view of Schafer et al (4,621,945).

Northup discloses the invention described above.

However, Northup fails to disclose a vortex plate in the outlet.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2).

Regarding claim 14, Schafer et al disclose a head control stand as described above comprising a metering plate 30 that includes apertures and can function as a vortex plate by breaking up any vortices that are formed in the output flow as liquid enters the outlet side at downstream section 24b of the container.

Regarding claim 19, Schafer et al disclose a head control stand as described above wherein the container is made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14. Each of those elements formed from PVC or polyethylene pipe (see column 2, lines 22-25).

It would have been obvious to one of ordinary skill on the art to modify either gate valve of Northup with a vortex plate, as taught by Schafer, because such a plate permits more laminar flow of the liquid from the inlet to the outlet making for a more efficient system. It would have been obvious to mold all pieces as one as a matter of convenience wherein the riser pipe 12 and

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junction pieces 24a,b form a unitary piece for ease of installation. Furthermore, Schafer et al disclose that the riser pipe comprises the same material as the junctions and tile system pipes. It would have been obvious and a matter of design choice to provide a corrugated pipe as the main material of the riser portion, since it is clearly shown that such materials are used in public works.

13. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Northup (2,896,904) in view of Mirto, Jr. (3,974,654) and Clark (5,348,041).

Northup discloses the invention described above.

However, Northup fails to disclose varying inlet/outlet dimensions and a flapper valve.

Mitro, Jr. discloses a self-regulating tide gate with a flapper valve 20 (see Figs.1-4).

Mirto, Jr. discloses hinges 22. A component of movement of the flapper valve comprises a vertical direction. The liquid flows generally in the horizontal direction.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the valve gate of Northup to comprise a flapper valve, as taught by Mitro, because both inventions are directed to gate valves and essentially provide the same function. The valves of both Northup and Mirto are functional equivalents and it would merely be a matter of overall design choice as to whether one of ordinary skill in the art used one or the other.

Clark discloses a separator valve for control of liquid comprising a container 2 having an inlet 100, an outlet 5 and a closed bottom surface 101 (see Fig.1). Clark further discloses a primary float 1 that rises and falls in response to liquid level in the container. Clark further

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discloses a valve disk 13 positioned in the container wherein the float opens and closes the valve when the float moves to certain heights in relation to a preselected height with the container; the preselected height determines a height of liquid required to open the valve. Clark discloses the separator valve as described above wherein an inlet dimension is smaller than an outlet dimension (see Fig.1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the invention of Northup to comprise a smaller inlet dimension in the same plane as the outlet dimension, as taught by Clark, because Northup's invention comprises an open top. The open top functions as a means to collect liquid also. Therefore, the combined inlets at the plane of the outlet and the top would provide a more balanced flow for an outlet sized larger than the inlet at in the plane of the outlet without overwhelming it.

14. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Northup in view of Mirto, Jr. and Clark, as applied to claim 32 above, and further in view of Schafer et al (4,621,945).

Northup, Mirto, Jr. and Clark disclose the inventions described above. Mirto, Jr.'s valve is a rigid plate.

However, Northup, Mirto, Jr. and Clark fail to disclose a rigid plate adjoins a flexible seal.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and

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outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2). Schafer discloses the use of a rigid plate 30 adjoined to an O-ring 33 and a seal ring 28 to prevent water from passing through the valve. As defined by *Merriam-Webster Collegiate-Dictionary, 10<sup>th</sup> Edition*, an O-ring is a ring, as of synthetic rubber, which is flexible, used as a gasket, which is also flexible.

It would have been obvious to one of ordinary skill on the art to modify either gate valve of Northup as modified by Mirto, Jr. with a flexible seal, as taught by Schafer, because such seals prevent fluid from flowing at those time when the valve is intentionally closed making for a more efficient system.

15. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carson, as applied to claim 35 above, and further in view of Schafer et al (4,621,945).

Carson discloses the invention described above.

However, Carson fails to disclose a flexible seal.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2). Schafer discloses the use of a rigid plate 30 adjoined to an O-ring 33 and a seal ring 28 to prevent water from passing through the valve. As defined by

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*Merriam-Webster Collegiate-Dictionary, 10<sup>th</sup> Edition*, an O-ring is a ring, as of synthetic rubber, which is flexible, used as a gasket, which is also flexible.

It would have been obvious to one of ordinary skill on the art to modify either gate valve of Carson with a flexible seal, as taught by Schafer, because such seals prevent fluid from flowing at those time when the valve is intentionally closed making for a more efficient system.

16. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Northup (2,896,904), in further view of Schafer et al (4,621,945) and Suazo et al (6,692,186).

Northup discloses the invention described above.

However, Northup fails to disclose that the invention is made in one piece using rotational molding.

Schafer et al disclose a head control stand 10 for liquid control comprising a container made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14 (see Figs. 1&3). The junction pipe 16 forms a closed bottom for the container and incoming and outgoing irrigation tile system pipe 14 form the inlets and outlets. Schafer et al disclose a head control stand as described above wherein the container comprises riser pipe 12 and the valve 18 comprises a flap 32 (see column 2). Schafer et al disclose a head control stand as described above wherein the container is made from riser pipe 12, junction pipe 16 and corrugated drainage-irrigation tile system pipe 14. Each of those elements formed from PVC or polyethylene pipe (see column 2, lines 22-25).

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It would have been obvious to one of ordinary skill on the art to modify the invention of Northup to comprise construction materials taught by Schafer. It would have been obvious to mold all pieces as one as a matter of convenience wherein the riser pipe 12 and junction pieces 24a,b form a unitary piece for ease of installation. Furthermore, Schafer et al disclose that the riser pipe comprises the same material as the junctions and tile system pipes. It would have been obvious and a matter of design choice to provide a corrugated pipe at as the main material of the riser portion, since it is clearly shown that such materials are used in public works.

Suazo et al disclose an apparatus for transporting water comprising corrugated piping components that are made from rotational molding processes (see column 8, lines 1-5).

It would have been obvious to one of ordinary skill in the art at the time of the invention to manufacture the invention of Northup, using rotational molding processes because it is a common method used to produce components for transporting water, as taught by Suazo et al.

### ***Response to Arguments***

17. Applicant's arguments with respect to claim 1-37 have been considered but are moot in view of the new ground(s) of rejection.




*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Saldano whose telephone number is 703-605-1167. The examiner can normally be reached on Monday-Friday, 8:30am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather C. Shackelford can be reached on 703-308-2978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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